24. (NEW) The method of claim 21 wherein the cellular protein of interest comprises a protein tyrosine kinase.

25. (NEW) The method of claim 24 wherein the protein tyrosine kinase is a src protein.

26. (NEW) The method of claim 17 further comprising contacting the cells with a test compound, and wherein the change indicates a test compound-induced change in distribution of the at least second fluorescent reporter molecules between cytoplasm and cell membrane in the individual cells.

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27. (NEW) The method of claim 26 further comprising detecting an effect of the test compound on one or more of the following:

i) chemical environment of the at least second fluorescent reporter molecule; and

ii) enzymatic activity of proteins reported on by the at least second fluorescent reporter molecule.

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**SUPPORT FOR THE NEW CLAIMS**

The new claims are supported by the specification as filed and do not constitute new matter. For example, the use of the invention to carry out assays for detecting changes in distribution of fluorescent reporter molecules between cytoplasm and cell membrane as recited in new claim 13, as well as the specific embodiments recited in claims 21-25 is disclosed at page 19 lines 5-13. The recitation of features of the fluorescent reporter molecule is supported (as well as claim 16), for example, on page 7 lines 21-25, as well as page 12 lines 1-18. Claims 14, 26, and 27 are supported, for example, at page 6 lines 6-15. Claims 17-20 are supported, for example, on page 10 line 23 to page 11 line 26. Support or claim 15 can be found, for example, on page 7 lines 9-15 and page 7 lines 26-29. Support for claim 28 can be found, for example, on page 10 lines 16-20 and page 19 lines 15-17. Thus, none of the new claims constitute new matter.

If there is any problem with this Preliminary Amendment, the examiner is respectfully invited to call the below signed attorney at (312) 913-2106.

Respectfully submitted,

**McDonnell Boehnen Hulbert & Berghoff**

Date: 12/13/01

By: _____

**David S. Harper**
**Registration No. 42,636**

**MARKED UP VERSION OF THE CLAIMS**

*Please cancel claims 1-12*

1. **(CANCELED)** ~~A method for analyzing cells comprising:~~

~~(a) providing an array of locations which contain multiple cells wherein the cells contain one or more fluorescent reporter molecules;~~

~~(b) scanning multiple cells in each of the locations containing cells to obtain fluorescent signals from the fluorescent reporter molecule in the cells;~~

~~(c) converting the fluorescent signals into digital data; and~~

~~(d) utilizing the digital data to determine the distribution, environment or activity of the fluorescent reporter molecules within the cells.~~

2. **(CANCELED)** ~~The method of claim 1 wherein the array of locations are wells in a microtiter plate.~~

3. **(CANCELED)** ~~The method of claim 1 wherein the array of locations are microwells on a microplate.~~

4. **(CANCELED)** ~~The method of claim 1 wherein the fluorescent reporter is added to the cell.~~

5. **(CANCELED)** ~~The method of claim 1 wherein the fluorescent reporter is produced by the cell.~~

6. **(CANCELED)** ~~The method of claim 1 wherein a computer means converts the digital data into the difference between the average cytoplasmic reporter molecule fluorescent intensity and the average nucleus fluorescent reporter molecule intensity.~~

7. **(CANCELED)** ~~The method of claim 1 wherein a computer means converts the digital data into the average cytoplasmic fluorescent reporter molecule intensity within the nucleus region.~~

8. **(CANCELED)** ~~The method of claim 1 wherein a computer means converts the digital data into the average fluorescent reporter molecule intensity within the cytoplasmic mask.~~

9. **(CANCELED)** ~~The method of claim 1 wherein 2 or 3 different fluorescent reporter molecules are in the cell.~~

10. **(CANCELED)** ~~A cell screening system comprising:~~

~~(a) a fluorescent microscope having a microscope objective, an XY stage adapted for holding a plate with an array of locations for holding cells and having a means for moving the plate to align the locations with the microscope objective and a means for moving the plate in the direction to effect focusing;~~

~~(b) a digital camera;~~

~~(c) a light source having optical means for directing excitation light to cells in the array locations and a means for directing fluorescent light emitted from the cells to the digital camera; and~~

~~(d) a computer means for receiving and processing digital data from the digital camera wherein the computer means includes:~~

~~i) a digital frame grabber for receiving the images from the camera,~~

~~ii) a display for user interaction and display of assay results,~~

~~iii) digital storage media for data storage and archiving, and~~

~~iv) means for control, acquisition, processing and display of results~~

11. **(CANCELED)** ~~The cell screening system of claim 10 having a PC screen operatively associated with the computer for displaying graphs of data and images of cells having fluorescent reporter molecules.~~

12. **(CANCELED)** ~~The cell screening system of claim 10 wherein the computer means stores the data in a bioinformatics data base.~~

*Please add the following new claims:*

13. **(NEW)** An automated method for analyzing cells comprising:

a) providing an array of locations which contain multiple cells, wherein the cells contain one or more fluorescent reporter molecules;

b) automatically imaging multiple cells in each of the locations containing cells to obtain fluorescent signals from the one or more fluorescent reporter molecules on or in individual cells;

c) automatically measuring one or more features of the fluorescent signals on or in the individual cells, wherein the one or more features are selected from the group

consisting of intensity, location, number of fluorescent domains, excitation or emission spectra, and fluorescence resonance energy transfer; and

d) automatically calculating changes in the one or more features of the fluorescent signals on or in individual cells, wherein the changes indicate a change in distribution of the one or more fluorescent reporter molecules between cytoplasm and cell membrane in the individual cells.

14. **(NEW)** The method of claim 13 further comprising contacting the cells with a test compound, and wherein the changes indicate a test compound-induced change the in distribution of the one or more fluorescent reporter molecules between the cytoplasm and the cell membrane in the individual cells.

15. **(NEW)** The method of claim 13 wherein the fluorescent reporter molecule is selected from the group consisting of fluorescently labeled proteins, fluorescently labeled antibodies, and chimeric proteins comprising green fluorescent protein coupled to a protein of interest.

16. **(NEW)** The method of claim 13 wherein the one or more features is selected from the group consisting of intensity and location.

17. **(NEW)** The method of claim 16 wherein the one or more fluorescent reporter molecules comprise at least a first fluorescent reporter molecule that identifies individual cells and at least a second fluorescent reporter molecule that reports on a cellular protein of interest.

18. **(NEW)** The method of claim 17 wherein the at least first fluorescent reporter molecule identifies cell nuclei.

19. **(NEW)** The method of claim 17 wherein the imaging of the at least first fluorescent reporter molecule is carried out at a different wavelength than the imaging of the at least second fluorescent reporter molecule.

20. **(NEW)** The method of claim 17 wherein the imaging comprises:

i) acquiring fluorescent signals in a field from the at least first fluorescent reporter molecule at a first wavelength to identify individual cells in the field; and

ii) automatically acquiring fluorescent signals from the at least second fluorescent reporter molecule at a second wavelength in a field containing individual cells.

21. (**NEW**) The method of claim 13 wherein the cellular protein of interest comprises a protein selected from the group consisting of a GTP binding protein and a protein tyrosine kinase.

22. (**NEW**) The method of claim 21 wherein the cellular protein of interest is a GTP binding protein.

23. (**NEW**) The method of claim 22 wherein the GTP binding protein is a Rho protein.

24. (**NEW**) The method of claim 21 wherein the cellular protein of interest comprises a protein tyrosine kinase.

25. (**NEW**) The method of claim 24 wherein the protein tyrosine kinase is a src protein.

26. (**NEW**) The method of claim 17 further comprising contacting the cells with a test compound, and wherein the change indicates a test compound-induced change in distribution of the at least second fluorescent reporter molecules between cytoplasm and cell membrane in the individual cells.

27. (**NEW**) The method of claim 26 further comprising detecting an effect of the test compound on one or more of the following:

i) chemical environment of the at least second fluorescent reporter molecule; and

ii) enzymatic activity of proteins reported on by the at least second fluorescent reporter molecule.